

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

11 FEB 2005

Applicant's or agent's file reference 2002P12985WO		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/02797	International filing date (day/month/year) 26.06.2003	Priority date (day/month/year) 17.08.2002	
International Patent Classification (IPC) or both national classification and IPC F25B43/02			
Applicant OXFORD MAGNET TECHNOLOGY LTD. et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 10 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input checked="" type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand  11.03.2004		Date of completion of this report  29.11.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Salaün, E  Telephone No. +49 89 2399-2966 	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/GB 03/02797**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1, 2, 6-10	as originally filed
3-5, 11	received on 02.09.2004 with letter of 31.08.2004

**Claims, Numbers**

1-12	received on 02.09.2004 with letter of 31.08.2004
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**Drawings, Sheets**

2/3	as originally filed
1/3, 3/3	received on 02.09.2004 with letter of 31.08.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

**see separate sheet**

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.  
☒ paid additional fees.  
☐ paid additional fees under protest.  
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

☐ complied with.

☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.  
☐ the parts relating to claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	7,8
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

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**2. Citations and explanations**

**see separate sheet**

**1. Basis of the report:**

The amendments filed with letter of 31.08.04 introduced subject-matter which goes beyond the disclosure of the international application as filed, contrary to the requirements of **Article 34(2)(b) PCT**.

In particular, there appears to be no basis in the originally filed application documents for the following features:

- "the means [for preventing oil carry-over from the compressor to the supplied equipment] are located in the circuit between the low pressure port and the supplied equipment" (new claim 1): this appears to be an unallowable generalisation of the disclosure of original claims 2-5;
- "a pressure relief valve (12) operable ... directly to the compressor capsule (14)" (last 4 lines of new claim 7): page 11, lines 1-16 and Fig. 5 do not provide a basis for this feature, contrary to the assertion in your letter of 31.08.04.

Consequently, this report has been established as if the amendments to the claims and description had not been made, in accordance with **Rule 70.2(c) PCT**.

**2. Lack of unity:**

- 2a. Independent apparatus claims 1 and 7 both relate to a pumped helium circuit.

These claims are merely linked by the features of the circuit comprising a compressor with a high-pressure port and a low-pressure port each connected to a supplied equipment, and a pressure-relieve valve. Since such a circuit is already known (see for instance GB-A-2 084 306: compressor 1, high-pressure line 16, low-pressure line 11, supplied equipment 15 and pressure-relieve means 8), there is no technical relationship among those inventions involving one or more of the same or corresponding special technical features in the sense of Rule 13.2

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The requirement of unity of invention referred to in Rule 13.1 PCT is therefore not fulfilled.

- 2b. In response to the invitation to restrict the claims or to pay additional fees, the applicant has paid additional fees. The present report is therefore established on the basis of claims 1-8.

**3. As regards novelty and inventive step of claims 1-8 as originally filed:**

3a. Claim 1:

Patent specification GB-A-2 084 306 (hereafter referred to as D1) seems to show the most relevant prior art.

D1 (see, in particular, page 1, lines 76-116 and the figure) discloses a pumped helium circuit comprising a compressor (1) with a high pressure port (see 16) and a low pressure port (see 11) each connected to a supplied equipment (15) to respectively supply compressed helium to, and receive compressed helium from, the supplied equipment; a pressure relief valve (8) operable to link the high pressure port to the low pressure port in response to a predetermined pressure differential; and means (13, 14) for preventing oil carry-over from the compressor to the supplied equipment, said means comprising means for preventing oil leaving the low pressure port and travelling towards the supplied equipment.

The circuit of claim 1 differs from that of D1 in that it further comprises a non-return valve located between a low pressure side of the pressure relief valve and the supplied equipment.

However, it is obvious to the skilled man to provide the circuit with such a non-return valve if there is a risk of backflow of gas to the supplied equipment. Thus, the subject-matter of claim 1 does not involve an

inventive step (Article 33(3) PCT).

3b. Claims 2-6:

Dependent claims 2-6 do not appear to contain any additional feature which involves the exercise of any skill or ability beyond that to be expected of the man skilled in the art. Claims 2-6 therefore do not seem to meet the requirements of Article 33(3) PCT.

3c. Claim 7:

It is technically unclear what is meant by the feature of the pressure relief valve being connected between the high pressure port and the compressor "independently of the low pressure port". Therefore, this feature has not been taken into account when assessing the novelty of the subject-matter of claim 7.

D1 discloses a pumped helium circuit comprising a compressor (1) with a high pressure port (see 16) and a low pressure port (see 11) each connected to a supplied equipment (15) to respectively supply compressed helium to, and receive compressed helium from, the supplied equipment; and a pressure relief valve (8) operable to return compressed helium from the high pressure port to the compressor in response to a predetermined pressure differential; the pressure relief valve being connected between the high pressure port and the compressor.

Hence, the subject-matter of claim 7 is considered to be known from D1 (Article 33(2) PCT).

3d. Claim 8:

D1 discloses a method for preventing oil carry-over from a helium compressor (1) to a supplied equipment (15) comprising the steps of:

- supplying compressed helium through a high pressure port (see 16) to the supplied equipment;
- receiving compressed helium through a low pressure port (see 11)

- from the supplied equipment;
- operating a bypass relief valve (8) in response to a differential pressure exceeding a predetermined value, thereby allowing oil-laden compressed helium to flow from the high pressure port to the compressor; and
  - preventing oil from the oil-laden compressed helium from travelling from the low pressure port to the supplied equipment (see syphon 14 and oil-retaining means 13).

The subject-matter of claim 8 is therefore not novel (Article 33(2) PCT).

**4. Certain defects in the international application:**

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1 is not mentioned in the description, nor is this document identified therein.